Intra-operative massive blood loss

Name:	P Ward	**Observation at start**		**CRT:**	2s
D.O.B.	31/11 (42Y)	**RR:**	(ventilated)	**Temp:**	36.7
Address:	(Insert local address)	**ETCO2**	Normal	**BM:**	8.2
		Sats:	97%	**Weight:**	110kg
Hospital ID:	446 579 1515	**Heart Rate:**	105	**Allergy**	NKDA
Ward:	General surgery	**BP:**	110/65		

Background to scenario	Specific set up
A patient undergoing a laparoscopic cholecystectomy, suffers from a vascular injury and massive blood loss. This scenario can be modified for any relevant common case performed at your local centre.	Mannequin, on theatre table Intubated and ventilated Cannulated with fluid running Anaesthetic drugs and chart Surgical drapes and laparoscopic equipment Suction and 'blood' to suction Treatment for major haemorrhage inc blood
Required embedded faculty/actors	**Required participants**
Junior anaesthetist (starting scenario) Surgeon	Anaesthetist ODP/theatre staff can be included in MDT sim

Past Medical History

42 year old patient, high BMI otherwise well
Recent admission with acute cholecystitis, recovered and now admitted for elective cholecystectomy
No issues with anaesthetics
Airway MP II, Good MO, Short neck, normal neck and jaw movement

Drugs Home	Drugs Hospital
Nil reg	Anaesthetic induction drugs Appropriate analgesia and anti-emetics

Brief to participants

You are the anaesthetic on call team
You hear a call for help from theatre X
On arrival – junior anaesthetist handover – 42 year old, undergoing a laparoscopic cholecystectomy
Induction was uneventful, grade IIa intubation, surgery was started about 30 mins ago.
In the last 10 minutes the patient has been more tachycardic, I have since given some analgesia and muscle relaxant but not resolving

Scenario Direction

	Stage 1, 0– 5 minutes
A	Intubated
B	As per ventilation settings, sats 97%
C	HR 105 BP 110/65
DE	Anaesthetised with choice of anaesthetic, temp 36.7 Surgeon – not communicative at this point. Suctioning increasing blood, asking for irrigation, getting more frustrated at difficulty visualising due to bleeding
Rx	Recognise potential cause as bleeding Communicate with team, declare critical incident, call for senior help Increase FiO2, reduce inhalational anaesthetic IV access
	Stage 2, 5–10 minutes
A	Intubated
B	As per ventilation settings, ETCO2 starting to decrease. Sats 95%
C	HR 140, BP 85/42, peripherally cool, CRT 4s
DE	Anaesthetised? Surgeon frustrated about bleeding, task focused. If directly alerted to changing physiology, will engage in MDT management
Rx	Blood transfusion, consider activating major haemorrhage protocol, consider rapid infusion devices/cell salvage Active warming MDT discussion re management options, including haematology, IR Monitor progress, POC testing including TEG. Discussion re transfusion goals Replace Ca, give TXA Consider ongoing management and destination for ongoing care Scenario can run till appropriate management decisions are made

Guidelines

AoA QRH handbook – Massive blood loss

Guidance for Patient Role

Anaesthetised

Guidance for ODP role	Guidance for Surgeon role
Opening lines/questions/cues/responses/Concerns Concerned about quick deterioration	Opening lines/questions/cues/responses/Concerns Can someone get more irrigation please? Suction keeps getting blocked Does the suction bottles need changing again?
Actions Alert team to blood in suction if not noticed Support as appropriate for participant grade	Actions Task focused, does not communicate ongoing bleeding Increasingly frustrated at difficult view due to bleeding If directly alerted, will engage with MDT approach to management
Guidance for Role e.g. ITU/Anaesthetic Senior	**Guidance for other role**
Expectations/actions Support as appropriate for participant grade – direct to over the phone	

Session Objectives	
Clinical	Management of intra-operative massive haemorrhage
Non-technical skills	
Teamworking	Coordinating activities of the team in emergency, exchanging information at points of handover, using assertiveness if required, assessing capabilities of team
Task management	Planning for next steps, prioritising management options, following guidelines, identifying and utilising resources – personnel and technical
Situational awareness	Gathering information on arrival, recognising critical incident, anticipating next steps
Decision making	Identifying options at all stage, balancing risks and selecting options, continuous re-evaluation